

WHAT IS CLAIMED IS:

1 1. A method for searching for a desired element in a document using a
2 first sequence of elements from a related document, wherein the document is related by an
3 expected similarity, wherein the first sequence of elements represents an ordered list of
4 elements where each element is from a predetermined set of elements, the method
5 comprising:

6 (a) building a second sequence of elements from the document, wherein the
7 second sequence of elements represents an ordered list of elements where each element is
8 from the predetermined set of elements;

9 (b) generating one or more search queries from the first sequence of elements;

10 (c) comparing the second sequence of elements with the one or more search
11 queries to produce one or more comparison results; and

12 (d) determining the desired element in the document from the one or more
13 comparison results.

1 2. The method of claim 1, wherein determining one or more search
2 queries from the first sequence of elements comprises determining a tolerance level and using
3 the tolerance level to determine the one or more search queries.

1 3. The method of claim 2, wherein determining one or more search
2 queries from the first sequence of elements comprises building the one or more search queries
3 of a length equal to the tolerance level.

1 4. The method of claim 3, further comprising:
2 determining a new tolerance level if the desired element cannot be determined
3 from the one or more comparison results; and
4 building the one or more search queries of a length equal to the new tolerance
5 level.

1 5. The method of claim 1, further comprising performing at least steps
2 (b), (c), and (d) a plurality of times to determine the desired element.

1 6. The method of claim 1, wherein determining the desired element from
2 one or more comparison results comprises determining the desired element from an exact
3 match between a search query and the second sequence of elements.

1 7. The method of claim 1, wherein determining the desired element from
2 one or more query results comprises determining a best match between one or more search
3 queries and the second sequence of elements.

1 8. The method of claim 7, wherein determining the best match between
2 the search query and the second sequence of elements comprises counting a number of
3 matches per element for each search query and the second sequence of elements.

1 9. The method of claim 8, wherein determining the best match between
2 the search query and the second sequence of elements comprises choosing the search query
3 with a highest number of matches as the best match.

1 10. The method of claim 7, wherein determining the best match between
2 the search query and the second sequence of elements comprises choosing a search query
3 with a position of the desired element closest to a position of the desired element in the
4 second sequence of elements as the best match.

1 11. The method of claim 1, further comprising constraining an element in
2 the predetermined set of elements with an attribute associated with the element.

1 12. The method of claim 11, wherein searching the document for elements
2 in the predetermined set of elements comprises searching for the constrained element and the
3 attribute associated with the constrained element in the document.

1 13. The method of claim 1, further comprising searching for a target
2 desired element based on the target desired element's relationship with the desired element.

1 14. The method of claim 1, further comprising storing the second sequence
2 of elements.

1 15. The method of claim 1, wherein the predetermined set of elements
2 comprises stable elements.

1 16. The method of claim 1, wherein the first and second sequences of
2 elements comprise characters representing elements in the predetermined set of elements.

1 17. The method of claim 1, wherein the document comprises an HTML
2 document.

1 18. A method for searching for a desired element found in a first document
2 in a second document using a predetermined set of stable elements, the method comprising:

3 (a) building a first sequence of stable elements from the first document,
4 wherein the first sequence of stable elements represents an ordered list of elements where
5 each element is from the predetermined set of stable elements;

6 (b) building a second sequence of stable elements from the second document,
7 wherein the second sequence of stable elements represents an ordered list of elements where
8 each element is from the predetermined set of stable elements;

9 (c) generating one or more search queries from the first string of stable
10 elements;

11 (d) comparing the second sequence of elements with the one or more search
12 queries to produce one or more comparison results; and

13 (e) determining the desired element in the second document from the one or
14 more comparison results.

1 19. The method of claim 18, wherein generating one or more search
2 queries from the first sequence of elements comprises determining a tolerance level and using
3 the tolerance level to determine the one or more search queries.

1 20. The method of claim 19, wherein generating one or more search
2 queries from the first sequence of elements comprises building the one or more search queries
3 of a length equal to the tolerance level.

1 21. The method of claim 20, further comprising:
2 determining a new tolerance level if the desired element cannot be determined
3 from the one or more comparison results; and
4 generating the one or more search queries of a length equal to the new
5 tolerance level.

1 22. The method of claim 18, further comprising performing at least steps
2 (c), (d), and (e) a plurality of times to determine the desired element.

1 23. The method of claim 18, wherein determining the desired element
2 from one or more query results comprises determining the desired element from an exact
3 match between a search query and the second sequence of stable elements.

1 24. The method of claim 18, wherein determining the desired element
2 from one or more query results comprises determining a best match between one or more
3 search queries and the second sequence of stable elements.

1 25. The method of claim 24, wherein determining the best match between
2 the search query and the second sequence of stable elements comprises counting a number of
3 matches per element for each search query and the second sequence of stable elements.

1 26. The method of claim 25, wherein determining the best match between
2 the search query and the second sequence of stable elements comprises choosing the search
3 query with a highest number of matches as the best match.

1 27. The method of claim 24, wherein determining the best match between
2 the search query and the second sequence of stable elements comprises choosing a search
3 query with a position of the desired element closest to a position of the desired element in the
4 second sequence of stable elements as the best match.

1 28. The method of claim 18, further comprising constraining a stable
2 element in the predetermined set of stable elements with an attribute associated with the
3 stable element.

1 29. The method of claim 28, wherein building a first sequence of stable
2 elements comprises searching for the constrained stable element and the attribute associated
3 with the constrained stable element in the first document.

1 30. The method of claim 28, wherein building a second sequence of stable
2 elements comprises searching for the constrained stable element and the attribute associated
3 with the constrained stable element in the second document.

1 31. The method of claim 18, further comprising searching for a target
2 desired element based on the target desired element's relationship with the desired element.

1 32. The method of claim 18, further comprising storing the second
2 sequence of stable elements.

1 33. The method of claim 18, wherein the first sequence of stable elements
2 is a sequence of characters representing elements in the predetermined set of stable elements.

1 34. The method of claim 18, wherein the first and second documents
2 comprise an HTML document.

1 35. A method for searching for a desired element found in a first document
2 in a second document using a user interface, the method comprising:
3 selecting the desired element in the first document using the user interface;
4 determining a set of stable elements based on the selected desired element;
5 building a first sequence of stable elements from the first document, wherein
6 the first sequence of stable elements represents an ordered list of elements where each
7 element is from the set of stable elements;
8 building a second sequence of stable elements from the second document,
9 wherein the second sequence of stable elements represents an ordered list of elements where
10 each element is from the set of stable elements;
11 determining one or more search queries from the first sequence of elements;
12 comparing the second sequence of elements with the one or more search
13 queries to produce one or more comparison results; and
14 determining the desired element in the second document from one or more
15 comparison results.

1 36. The method of claim 35, wherein determining a set of stable elements
2 comprises using a default set of stable elements.

1 37. The method of claim 35, wherein determining a set of stable elements
2 comprises choosing elements using the user interface to determine the set of stable elements.